

REMARKS

Applicants have amended claims 1-3 and 14, and have cancelled claim 69 without prejudice. Applicants also have added new claims 70-72. New claim 71 corresponds to original claim 17 and new claim 72 corresponds to original claim 18.

Claims 1-3, 5-6, 8-14, 16, 19, 21-26, 29-34, 36-40, 51-54, 68, and 70-72 are pending in the application. Applicants address the Examiner's objections and rejections below.

Information Disclosure Statement

The Examiner noted that the Information Disclosure Statement submitted on June 4, 2001 (mailed on June 1, 2001) has been completely considered by the Examiner. Applicants request that the Examiner return the initialed Form 1449 for the June 4, 2001 Information Disclosure Statement.

Claim Objections

The Examiner objected to claim 69 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. In reply to the Examiner's objection, Applicants have cancelled claim 69.

Claim Rejections – 35 U.S.C. § 102

U.S. 6,284,400 B1 (“Adey”)

The Examiner rejected claims 1, 2, 5, 6, 8-11, 51, 52, and 69 under 35 U.S.C. § 102(e) as anticipated by U.S. 6,284,400 B1 (Adey).

As noted above, Applicants have cancelled claim 69, which obviates the rejection for that claim. Pending claims 1, 2, 5, 6, 8-11, 51, and 52 are not anticipated by Adey, and for at least the reasons provided below.

Amended claim 1 recites a battery that includes a cathode and a housing with a surface that is adjacent to the cathode. The surface defines a plurality of openings arranged to provide first fluxes of gas that overlap to form a generally non-circular second flux of gas on a portion of the cathode.

Adey does not describe or suggest a battery with a cathode and a surface that defines a plurality of openings arranged to provide first fluxes of gas that overlap to form a generally non-circular second flux of gas on a portion of the cathode. Rather, the cathode can openings in Adey provide circular fluxes that do not overlap with each other, as Adey shows in Figures 2 and 5: “FIGS. 2 and 5, in combination, illustrate the relatively shorter distances between the multiple ports 34 and the outer edges of the respective plumes [defined by enclosed areas 56] in a preferred cathode can of the invention.” (Adey, col. 7, lines 49-52, emphasis added). In Figures 2 and 5, the outer edges of the plumes on the cathode do not overlap with each other. In fact, Adey confirms this lack of overlap: “[T]he imaginary closed figures [which represent the plumes on the cathode] can touch each other without generally overlapping each other, and thus represent a footprint on the cathode assembly corresponding with the spacing of the ports on the bottom of the cathode can.” (Adey, col. 3, lines 28-32, emphasis added).

Thus, Adey’s plumes do not overlap to form one bigger, non-circular flux of gas. Adey therefore does not anticipate claims 1, 2, 5, 6, 8-11, 51, and 52, and Applicants request that the Examiner’s rejection of these claims be withdrawn.

U.S. 4,591,539 (“Oltman”)

The Examiner rejected claims 1, 3, 5, 11, 12, 51, 52, and 69 under 35 U.S.C. § 102(b) as anticipated by U.S. 4,591,539 (Oltman).

As noted above, Applicants have cancelled claim 69, which obviates the rejection for that claim. Pending claims 1, 3, 5, 11, 12, 51, and 52 are not anticipated by Oltman, for at least the reasons provided below.

Amended claim 1 recites a battery including a cathode and a housing with a surface that is adjacent to the cathode. The surface defines a plurality of openings arranged to provide first fluxes of gas that overlap to form a generally non-circular second flux of gas on a portion of the

cathode. Oltman does not describe or suggest a battery with a cathode and a surface that defines a plurality of openings arranged to provide first fluxes of gas that overlap to form a generally non-circular second flux of gas on a portion of the cathode. Thus, Oltman does not anticipate claims 1, 3, 5, 11, 12, 51, and 52.

Claim Rejections – 35 U.S.C. § 103

U.S. 6,284,400 (Adey)

The Examiner rejected claims 3, 12-14, 16, 19, 21-26, 29-34, 36-40, 53, 54, and 68 under 35 U.S.C. § 103(a) as unpatentable over U.S. 6,284,400 (Adey).

Claims 3, 12, 13, and 68 all depend from claim 1. For at least the reasons described above, Adey does not suggest a battery with the features recited in claim 1. Thus, Adey does not render claims 3, 12, 13, and 68 obvious.

Amended claim 14 recites a battery that includes a housing with a surface defining an opening that has an aspect ratio between about 5:1 and about 400:1. As the Examiner acknowledges, “Adey does not explicitly teach the claimed aspect ratios.” (July 24, 2003 Office Action, p. 6). Furthermore, Adey does not suggest the claimed aspect ratios. The aspect ratio of an opening corresponds to the specific shape of the opening. Adey focuses on the size of the openings in the cathode can, rather than on their shape. For example, Adey states that “[an] object is to provide yet smaller air ports in the bottom of the cathode can” (Adey, col. 2, lines 58-59). Additionally, Adey notes,

In general, . . . the benefits of the invention are increased as air port size decreases. Moreover, in general, for a given cell size, increasing benefits of the invention are obtained as the number of air ports is increased in combination with an overall decrease in the total open area of all the air ports. (Adey, col. 5, lines 10-15).

The Examiner acknowledges Adey’s focus on size, stating that, “Adey teaches and suggests that the size of the opening depends upon the size of the cell (reaction surface) and the performance characteristics demanded of the cell.” (7/24/2003 Office Action, p. 6). Adey focuses on the size of the openings rather than their shape, and does not suggest the specific aspect ratio ranges of

claims 14, 16, and 53, and of new claims 70-72. Thus, Adey does not render claims 14, 16, 53, and 70-72 obvious.

Claim 19 recites a battery comprising a housing with a surface defining an elongated curved opening. The opening is not a louver or an ellipse. An example of the type of opening recited by claim 19 is shown as reference numeral 110 in Figure 11 of Applicants' application:

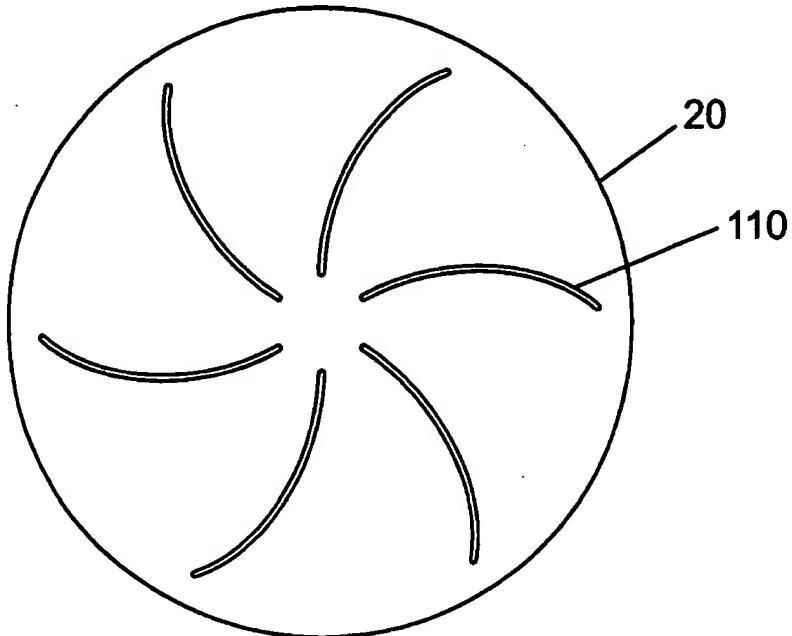


Fig. 11

Adey does not suggest an elongated curved opening like that shown in Figure 11. Furthermore, Applicants are not aware of any batteries that have a cathode can with an elongated curved opening. Thus, it would not have been obvious to a person of skill in the art to modify the cathode can described in Adey to arrive at the cathode can of claim 19. Adey therefore does not render claim 19, or claims 21-26, 29-34, 36-40, and 54 (which all depend from claim 19) obvious.

The Examiner is reminded that a claimed invention cannot be found obvious unless something in the prior art suggests the invention to a person of ordinary skill in the art. Ex parte Clapp, 227 U.S.P.Q. 972, 973 (Bd. App. 1985). The Examiner is required in the first instance to

provide a factual (not speculative) basis for an obviousness rejection. As the Court in In re Warner, 154 U.S.P.Q. 173, 179 (C.C.P.A. 1967) explained:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, all facts must be considered. The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.

See also In re Jones, U.S.P.Q. 2d 1941, 1944 (Fed. Cir. 1992) (mere "speculation" that one of ordinary skill in the art would have been motivated to make the appropriate modifications to the prior art is not sufficient).

The only teaching of an opening that has an aspect ratio between about 5:1 and about 400:1 and/or that is elongated and curved is in the specification of this application. However, Applicants' specification cannot be used as the basis for establishing obviousness. As explained by the Court of Appeals for the Federal Circuit in W.L. Gore and Associates v. Garlock, Inc., 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984):

To imbue one of ordinary skill in the art with knowledge of the invention...when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

Applicants believe the claims are in condition for allowance, which action is requested. Please apply any charges or credits to deposit account 06-1050.

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Respectfully submitted,

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